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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/435,854	11/08/1999	TIMOTHY R. PRYOR	P00891US3	5796

7590 01/29/2003

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EXAMINER

ABDULSELAM, ABBAS I

ART UNIT PAPER NUMBER

2674

DATE MAILED: 01/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/435,854

Applicant(s)

PRYOR

Examiner

Abbas I Abdulsalam

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-22 and 27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 and 27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

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## **DETAILED ACTION**

### **Claim Rejections 35 U.S.C. 103**

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-22 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zimmerman et al. (USPN 4988981).

Regarding claims 1, 5, 21 and 27, Zimmerman teaches computer data entry and manipulation method and an apparatus (10) including a glove assembly (12), position sensing receiver assembly (20) around the screen (28). Zimmerman teaches that the glove assembly contains sensors detecting the flexing of the fingers and other gestures of the hand and also contains one or more ultrasonic transducers (17) for transmitting signals to receivers (20). Zimmerman teaches that the glove assembly sends signals and enters commands into the computer (16), and the command relates to the manipulation of virtual objects created by the computer and displayed on the display screen. Furthermore, Zimmerman teaches that movement by the glove assembly in plane parallel to the display screen produces the corresponding movement by the cursor. See Fig 3, lines 5-52 and FIG 1, col. 1, lines 10-16, col. 3, lines 53-64 and Fig 6.

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However, Zimmerman does not specifically teach optically determining position of one or more points on a user or an object. On the other hand, Zimmerman does disclose the use of the glove assembly (12) including an orientation sensor (70) which can be implemented in various ways one of which is a bubble gauge reading electrooptically. Zimmerman also mentions the use of optical flexible sensor and an optical electromagnetic transmitter in connection to the glove assembly. See col. 4, lines 49-52, 63-64 and col. 5, lines 25-37.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to utilize Zimmerman's glove assembly with respect to optical transmission which is used for detecting the flexing of fingers. One would have been motivated in view of the suggestion that the use of glove assembly using optical transmission is the same as the desired optical determination. The use of a glove assembly helps function a computer data entry manipulation device as taught by Zimmerman.

Regarding claims 2-4, Zimmerman teaches the use of a variety of devices for data entry and manipulations in computers. See col. 1, lines 10-11.

Regarding claim 6, Zimmerman teaches the distances measured between the glove and the three receivers in terms of coordinates (x, y, z) in rectangular coordinate system. See col. 6, lines 11-32.

Regarding claim 7, Zimmerman teaches a glove with sensors for detecting and flexing of finger joints and contacts on different parts of the hand. Col.1, lines 42-45.

Regarding claims 8-9 and 11-15, see Fig 1 (20, 22, 24, 28).

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Regarding claims 10 and 22, Zimmerman teaches the method of manipulation with respect to tools such a virtual steering wheel. See col. 1, lines 52-68.

Regarding claims 16-20, Zimmerman teaches that as the user of the system moves his hand in space, the position and orientation of the glove are continuously detected. See col. 8, lines 10-19, and Fig 6 (140).

### **Conclusion**

2. The prior art made of record and not relied upon is considered to applicant's disclosure.

The following arts are cited for further reference.

U.S. Pat No. 6,329,979 to Arimoto et al.

U.S. Pat No. 6,201,484 to Russell

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3. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Abbas Abdulsalam** whose telephone number is **(703) 305-8591**. The examiner can normally be reached on Monday through Friday (9:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard Hjerpe**, can be reached at **(703) 305-4709**.

**Any response to this action should be mailed to:**

Commissioner of patents and Trademarks

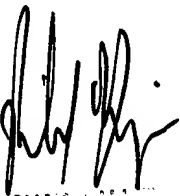
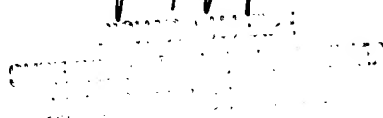
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**or faxed to:**

**(703) 872-9314**

Hand delivered responses should be brought to crustal park II, Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology center 2600 customer Service office whose telephone number is (703) 306-0377.

Abbas Abdulsalam

Examiner

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